REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars:

In the specification

The specification has been amended to correct an obvious typographical error.

Rejection of claims 1 and 6-11 under 35 U.S.C. § 112, second paragraph

Claims 1 and 6-11 presently stand rejected as being indefinite. In particular, the examiner notes that the phrase "the register" in claim 1 lacks sufficient antecedent basis, and the examiner asserts that the phrase "a client port in time time slit n to 0" in claim 6 is unclear.

The foregoing amendments to the claims are believed to provide sufficient definition to particularly point out and distinctly claim the subject matter which applicant regards as the invention to one of ordinary skill in the art. Accordingly, withdrawal of the rejections is respectfully requested.

Rejection of claims 1-5 under 35 U.S.C. § 103(a)

Claims 1-5 presently stand rejected as being unpatentable over Yadav et al (U.S. 6,868,062) in view of Thompson (U.S. 6,681,059). This rejection is respectfully traversed for the following reasons.

According to the present invention (as set forth in claims 1 and 6), the traffic rate $Tr\Delta[n]$ is defined as the *"length of transmitted packets."* Accordingly, the average traffic rate before time slot $(n+1)$, $Tr[n+1] = g*Tr\Delta[n] + (1-g)*Tr[n]$, is computed to obtain a total length of *transmitted packets* before time slot $(n+1)$.

Accordingly, in the present invention, each client port can determine whether to transmit based on *traffic rate $Tr\Delta[n]$ used previously* and the length of the packet to be transmitted, so that the packet can be transmitted only when the bandwidth determined by

the current packet length and *the traffic rate used previously* is smaller than the bandwidth threshold, thereby precisely controlling the bandwidth of each client port at a low cost without the need of high layer protocol.

In contrast, Yadav uses a token bucket model which parameterizes traffic in terms of a token bucket size b and a token generation rate r, the bucket size and generation rate each having upper bounds B and R, respectively. Whenever a data packet of size x is transmitted, "it is imagined that x tokens are removed from the token bucket. A data packet can be successfully sent if the number of tokens in the bucket exceeds the size of the data packet to be sent." (*Yadav*; col. 2, lines 57-61). According to the token bucket model, a maximum of $(r*T)+b$ data bytes can be sent in a time period T.

Yadav teaches that "the token bucket generation rate r represents the processing power consumed by the traffic pattern, while the bucket size b represents the memory space consumed by the traffic pattern." (*Yadav*; col. 3, lines 2-5).

Thus, Yadav determines that "a data packet of size x may be successfully sent if the number of tokens in the bucket exceeds the size of the data packet to be sent." (*Yadav*; col. 2, lines 59-61). In other words, Yadav simply determine a maximum allowance for data to be sent during a time interval that is based on processing power and memory space, and then allows a packet to be sent if the allowance is not exceeded.

Yadav does not provide any disclosure or suggestion of using a *traffic rate* of the client port in a time slot n, where the traffic rate represents the *length of transmitted packets*, and there is no disclosure or suggestion of using an *average traffic rate* of the client port *actually generated before the time slot n* (the average traffic rate being defined in the present specification as an actual traffic rate generated from t_1 to t_n).

Yadav offers no disclosure or suggestion that any consideration or use is made of any actual traffic rates. At best, Yadav only discloses deducting the size of a sent packet from the allowance determined by the bucket size which is based on processing power and memory space, not on any measurement or metric of previously sent traffic.

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Yadov therefore fails to disclose or suggest each and every element set forth in claims 1 and 6 of the present application.

Thompson discloses a digital image processor, and particularly a method and apparatus for video scaling. Thompson does not disclose or suggest any method or apparatus relating to bandwidth control. Accordingly, Thompson fails to disclose or suggest the claimed bandwidth control method or device of the present application, or any part or step thereof. Thompson is not concerned with transmission of data packets in a network protocol, and therefore does not disclose or suggest using a *traffic rate* of a client port in a time slot n, where the traffic rate represents the *length of transmitted packets*, or using an *average traffic rate* of the client port *actually generated before the time slot n*, in determining when a data packet or data packets may be transmitted.

While the examiner asserts that Thompson discloses a first multiplier for multiplying a traffic rate of a client port and a second multiplier for multiplying an average traffic rate, this is an incorrect interpretation of the teachings of Thompson.

The examiner refers to a first multiplier 46 and a second multiplier 44, each shown in Fig. 5. While the multipliers do in fact multiply (or scale) *video data*, it does not follow that the multipliers multiply the *traffic rate of a client port* and the *average traffic rate* of the client port. There is no teaching or suggestion within Thompson of any traffic rate, or measurement or use of any traffic rate, whatsoever. Accordingly, Thompson cannot be interpreted to provide a teaching or suggestion of multiplying the traffic rate or the average traffic rate by a multiplicator.

There is simply no motivation or suggestion in either cited reference to look to the other to arrive at the present invention. Thompson is concerned with scaling video data, and not with bandwidth control. While the examiner asserts that "the motivation [is] determining whether [the] client port is allowed to transmit [a] packet," Thompson has no client port and is not concerned with transmitting packets. Thus, is simply makes no sense to look to a device for video scaling to solve a problem related to client/server communication and transmission of data packets.

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Therefore, neither Yadav nor Thompson (either separately or in combination) disclose or suggest using a *traffic rate* of the client port in a time slot n, where the traffic rate represents the *length of transmitted packets*, and there is no disclosure or suggestion of using an *average traffic rate* of the client port *actually generated before the time slot n*. Further, neither Yadav nor Thompson (either separately or in combination) disclose or suggest a first multiplier for multiplying a traffic rate of a client port and a second multiplier for multiplying an average traffic rate. Moreover, there is no motivation or suggestion to combine Yadav and Thompson in a manner to arrive at the present invention. Therefore, Yadav and Thompson fail to form a prima facie case of obviousness of any of claims 1-11 of the present application. Accordingly, withdrawal of the rejection is respectfully requested.

Conclusion

In view of the amendments to the claims, and in further view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is requested that claims 1-11 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's attorney, the Examiner is invited to contact the undersigned at the numbers shown.

Respectfully submitted,

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